



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,128	06/24/2003	Andrew A. Frank	UC00-300-2US	3639
8156	7590	05/06/2004	EXAMINER	
JOHN P. O'BANION O'BANION & RITCHEY LLP 400 CAPITOL MALL SUITE 1550 SACRAMENTO, CA 95814			TIBBITS, PIA FLORENCE	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,128

Applicant(s)

FRANK, ANDREW A.

Examiner

Pia F Tibbits

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June and 11/12/ 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/24/03 (4 pgs).
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in answer to the preliminary amendment filed 6/24/2003. Claims 1-6 are pending, and claims 7-24 were canceled.

Priority

1. This application is a continuation of PCT/US02/00220, which has a filing date of January 3, 2002, and claims priority from provisional application 60/259662, which expired. Applicant needs to clarify the actual priority date claimed.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. For example, on page 10 of the specification, "The control parameters include, **for example, example**, the engine throttle 38" needs to be corrected.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter: "a certain state", "a particular state of charge". See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2, 4, and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 4, and 6: "a certain state" and "a particular state of charge" are indefinite.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2838

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Severinsky** [6209672].

Severinsky discloses in figures 1-9b a hybrid electric vehicle having an internal combustion engine 40, an electric motor 25, and a battery system 22 for powering the electric motor 25, the improvement comprising of controlling the interaction between the internal combustion engine 40 and electric motor 25. Severinsky does not disclose specifically taking energy into the battery system 22 only if it is more fuel efficient than throttling the engine and operating the engine at a lower efficiency. However, Severinsky discloses that the mode of operation is selected by a microprocessor 48 in response to a control strategy; the values of the sensed parameters in response to which the operating mode is selected may vary depending on recent history, or upon analysis by the microprocessor of trips repeated daily. Figures 7a-7c describe that the vehicle is operated in different modes, depending on its instantaneous torque requirements, and the **state of charge of the battery**, and other operating parameters. The rate of change of the engine's torque output is limited, e.g., to 2% or less per revolution, as indicated in fig. 7a, in order to limit undesirable emissions and improve fuel economy; that is, as the stoichiometric fuel/air ratio varies somewhat as the load changes, simply **opening the throttle** and causing additional fuel to be injected upon the operator's depressing the accelerator pedal would result in non-stoichiometric, inefficient combustion. According to the patent, the rate of change of engine torque is limited; this provides sufficient time for the essentially conventional electronic engine management and electronic fuel injection systems, which comprise a "lambda sensor" for monitoring the oxygen content of the exhaust gas stream as an indication of stoichiometric combustion, to respond as the load changes, preserving stoichiometric combustion and reducing emission of unburned fuel [see also the abstract; column 12, lines 29-35; column 12, lines 29-35; column 15, lines 23-33; column 19, lines 19-30; column 32, lines 17-37;].

Art Unit: 2838

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made that the prior art element (A) performs the function specified in the claim, (B) is not excluded by any explicit definition provided in the specification for an equivalent, and (C) is an equivalent of the means- (or step-) plus-function limitation, therefore, the prior art element is an equivalent because: (A) the prior art element performs the identical function specified in the claim in substantially the same way, and produces substantially the same results as the corresponding element disclosed in the specification. *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000)

With respect to the method claims 1-4: the method steps will be met during the normal operation of the apparatus described above.

As to claim 5, Severinsky discloses computer/microprocessor 48, i.e., any controller capable of examining input parameters and signals and controlling the mode of operation of the vehicle according to a stored program [see also column 18, lines 65-67; column 19, lines 1-12; column 21, lines 27-38].

As to claim 6, Severinsky discloses in fig.9 a flowchart of the principal decision points in the control program used to control the mode of vehicle operation. The microprocessor 48 tests sensed and calculated values for system variables, such as the vehicle's instantaneous torque requirement, i.e., the "road load" RL, the engine's instantaneous torque output ITO, both being expressed as a percentage of the engine's maximum torque output MTO, and the **state of charge of the battery bank BSC**, expressed as a percentage of its full charge, against setpoints, and uses the results of the comparisons to control the mode of vehicle operation. Therefore, the maximum permissible rate of change of engine output torque also may be varied in accordance with the BSC; if the batteries are relatively discharged, it may be preferable to allow the engine's output torque to ramp-up more quickly than otherwise, in order to limit the amount of electrical power drawn from the batteries in response to an acceleration command [see also column 15, lines 20-22; column 22, lines 40-48].

Art Unit: 2838

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is (571) 272-2086. If unavailable, contact the Supervisory Patent Examiner Mike Sherry whose telephone number is (571) 272-2084.

10. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-2800. Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.

PFT

May 3, 2004

